

REMARKS

Claims 1-5, 8-23, and 25-32 are all the claims pending in the application. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

Claim Rejections - 35 U.S.C. § 112

The Examiner rejected claims 1-5, 8, 10-23, and 25-32, under §112, 2nd paragraph, as indefinite. Applicants have amended claims 1, 10, 18, 19, 20, 22, and 26 so as to clarify that the first substrate may be either one of the belts of a low pressure press, or a separate member, and have amended claims 15-17 for clarification of the heating.

Claim Rejections - 35 U.S.C. § 103

- The Examiner rejected claims 1-5, 10-23, and 25-32, under §103(a) as being unpatentable over US Patent 4,396,566 to Brinkmann et al. (hereinafter Brinkmann) in view of US Patent 4,510,201 to Takeuchi et al. (hereinafter Takeuchi) and US Patent 4,743,187 to Schermutzki (hereinafter Schermutzki) and in view of US Patent 3,385,722 to Weaver et al. (hereinafter Weaver) and / or US Patent 2,960,727 to Bradshaw et al. (hereinafter Bradshaw). Applicants respectfully traverse this rejection because the references fail to teach or suggest all the elements as set forth in Applicants' claims.

During a personal interview conducted on March 2, 2004, the Examiner explained that he considers Brinkman to specifically disclose the application of thermoplastic material onto a supporting textile, and then leading such through a press. See Brinkmann at col. 3, lines 60-68. A resulting structure would resemble Fig. 2 in Takeuchi. The Examiner then explained that Takeuchi teaches a structure wherein a textile 1 is located between two layers of thermoplastic 2, as shown in Fig. 1. Accordingly, starting from Brinkman's disclosure, the Examiner asserted that to get to Takeuchi's Fig. 2 arrangement, one of ordinary skill in the art would look to Schermutzki. The Examiner further asserted that Schermutzki broadly teaches sequential application of thermoplastic material, textile and thermoplastic material.

Applicants respectfully disagree with the Examiner's broad interpretation of Schermutzki because Schermutzki fails to teach the sequential application of thermoplastic, textile onto the thermoplastic, and then application of a second thermoplastic onto the textile. Instead, Schermutzki teaches either: simultaneously applying thermoplastic onto a second substrate and applying the second substrate onto a first thermoplastic coating; or applying thermoplastic onto a second substrate, and then applying the second substrate to the first coating to build up a layered product.

In Figs. 1 and 2, Schermutzki discloses a feeder device 6 that applies powder to an upper belt 1, another feeder device 8 that applies resin to the lower belt 2, and that the softened resin layers on belts 1 and 2 arrive in the pressing zone 3 wherein they are contacted with the glass fiber mat 4.¹ In such a situation, powder, granules or pellets of a thermoplastic material are not applied onto the second substrate 4. That is, although powder is fed from feeder device 6, it is heated and melted so as to form a soft resin layer by the time it contacts with fiber mat 4. Further, the melted resin on belt 1 is not applied to the fiber mat 4 after the fiber mat 4 has been applied over, or contacted with, the first coating; the coatings on belts 1 and 2 contact the fiber mat 4 at the same time, i.e., when they enter the compressing zone 3.

In Figs. 3-5, each of the substrates 4, 4a, 4b, 4', and 4a', has material (either powder or melted powder) applied thereto before it comes in contact with the layer below. Accordingly, none of substrates 4, 4a, 4b, 4', and 4a', are a second substrate onto which powder, granules or pellets are scattered after that substrate has been applied over a first coating, as set forth in claim 1.

In fact, it is the embodiments of Schermutzki's Figs. 3 and 4 that would most closely represent the combination of Brinkman, Takeuchi and Schermutzki. That is, Brinkman discloses applying the particles of raw material onto a textile sheet², which process most closely resembles that applied to Schermutzki's substrates 4 and 4a, wherein particles of raw material are scattered

¹ Schermutzki at col. 3, line 57 - col. 4, line 25.

² Brinkman at col. 3, lines 60-68.

thereon. In Schermutzki's Fig. 3, particles are scattered from resin feeders 11 and 11a respectively onto mats 4 and 4a. Similarly, in Schermutzki's Fig. 4, particles are scattered from resin feeder 11 onto mat 4. However, at the time that resin is applied from feeders 11, 11a, the mats 4 and 4a are not first applied on top of first particles of raw material.

In this regard, the Examiner asserts that Schermutzki teaches a step of scattering thermoplastic powder from device 11d, after the second substrate (fiber mat 4) has been applied over the first coating ... on ... lower belt 2 ...".³ Although thermoplastic powder is scattered from device 11d after belt 4 is over belt 2, that thermoplastic powder is not scattered "onto the second substrate", as set forth in claim 1. Instead, the thermoplastic from device 11d is scattered onto a resin and glass fiber layer formed by thermoplastic from feeders 11, 11b, and 11c, as well as glass fibers 55 from device 21. For example, with reference to Schermutzki's Fig. 4, the mat 4 is preheated by heater 13, whereby the powder from device 11 is melted upon contact to form a resin layer.⁴ Further, the mat 4 is not in contact with the resin layer 40 before the resin from device 11d is applied.

With respect to claim 32, the Examiner asserts that " 'contacting' the second substrate with the first coating would have been obvious in view of (a) Takeuchi et al's teaching to contact both sides of a textile sheet with thermoplastic material"⁵ The Examiner's reliance on Takeuchi is misplaced. That is, although Takeuchi teaches a textile sheet having both sides thereof coated with thermoplastic, it does not provide any teaching or suggestion as to the order in which that sheet is made. On the other hand, as set forth in claim 32, the second sheet is applied over a first substrate (having thereon a coating of thermoplastic granules or pellets) before that second sheet is scattered with powder, granules or pellets of a thermoplastic material. That is, although the

³ Office Action at page 4, lines 3-7 (emphasis in original).

⁴ Schermutzki at col. 2, lines 24-27, 32-33, 58-61, and col. 4, lines 40-55.

⁵ Office Action at page 5, 1st full paragraph, lines 1-3.

end product of claim 32 may appear similar to that in Takeuchi, claim 32 sets forth a particular order in which the sheet is assembled. And that order is not taught or suggested by Takeuchi.

Further, the Examiner relies on “(b) Schermutzki’s teaching that the thermoplastic powder applying devices may be arranged such that thermoplastic material is scattered on a textile sheet using a device 11d after the textile sheet contacts a layer of thermoplastic on lower belt 2.”⁶ Again, the Examiner’s reliance on Schermutzki is misplaced. As shown in Fig. 4, mat 4 does not contact the resin 40 on belt 2 until the mat 4 and belt 3 enter the compression zone 3, i.e., after mat 4 has been scattered with resin from device 11d. Further, note: col. 3, lines 27-32, wherein Schermutzki discloses that it is in compression zone 3 “wherein the horizontal upper flight of the lower belt and the horizontal lower flight of the upper belt 1 are pressed toward each other by means of pressure bodies 30 and roller conveyors 31”; col. 3, lines 48-51, wherein Schermutzki describes that the mat 4 “is guided over a feeder table 37, until it reaches the compression [zone 3] and is seized by the opposing flights and is drawn through the press.”; col. 4, lines 32-36, wherein Schermutzki states that the “mats 4 and 4a ... are guided in an approximately horizontal manner by means of feeder belts 42, 43, and enter the compression zone without appreciable deflection.”; and col. 4, lines 59-64, wherein Schermutzki sets forth that “[i]n the compression zone 3 the two glass mats, processed in the manner described above, come together on the upper belt 1 and the lower belt 2 respectively.” Therefore, although device 11d scatters thermoplastic on mat 4, at that point the mat 4 is not in contact with the belt 2; it is only “[i]n the compression zone 3 [that] that two glass mats [4, 4a or 4b] come together on the upper belt 1 and the lower belt 2 respectively.”⁷ Also note col. 5, lines 21-22, wherein Schermutzki sets forth that the mat 4 in the Fig. 4 embodiment “is processed in a manner similar to that described relative to Fig. 3.” Therefore, Schermutzki fails to teach or suggest the claim 32 step of “scattering powder, granules or pellets of a thermoplastic material onto the second substrate, after said second substrate has been contacted with the first coating.”

⁶ Office Action at page 5, 1st full paragraph, lines 3-6 (emphasis in original).

⁷ Schermutzki at col. 4, lines 59-64.

Lastly, the Examiner has failed to establish *prima facie* obviousness by a preponderance of the evidence. To establish *prima facie* obviousness, the ultimate determination must be based on the entire record, by a preponderance of evidence.⁸ The legal standard of “a preponderance of evidence” requires the evidence to be more convincing than the evidence which is offered in opposition to it. Under 35 U.S.C. § 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved—i.e., the reference teachings establish a *prima facie* case of obviousness—is more probable than not.²

In this case, the Examiner asserts that—to make a structure as shown in Takeuchi’s Fig. 1—one of ordinary skill in the art would have been taught by Brinkmann, Takeuchi, Schermutzki, Weaver and/or Bradshaw, to lay a first thermoplastic material, place a textile thereon, and then place a second thermoplastic material onto the textile, as claimed by Applicants. However, it is just as likely that one of ordinary skill would have been taught to place a second thermoplastic material onto the textile, and then apply that combination to the top of a first thermoplastic material, which arrangement is specifically taught in Schermutzki’s Fig. 3, wherein resin from feeder 11 is applied onto mat 4 before that mat 4 is applied over resin layer 40. This arrangement is again taught in Fig. 3 by feeder 11a, which applies resin to mat 4a before that mat 4a is applied over the resin on mat 4. Still further, this arrangement is taught in Schermutzki’s Fig. 4, wherein resin from feeder 11 is applied to mat 4 before that mat 4 is applied over resin layer 40.

Accordingly, the Examiner has failed to establish *prima facie* obviousness by a preponderance of the evidence.

In light of the above, Brinkmann, Takeuchi, Schermutzki, Weaver, and Bradshaw fail to render obvious Applicants’ claims 1 and 32. Likewise, these references fail to render obvious dependent claims 2-5, 10-23, and 25-31.

⁸ *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

² See MPEP § 2142.

- The Examiner rejected claim 8 under §103(a) as being unpatentable over Brinkmann in view of Takeuchi and Schermutzki and in view of Weaver and/or Bradshaw, and further in view of US Patent 4,997,507 to Meyer (hereinafter Meyer) and US Patent 3,883,386 to Garbini et al. (hereinafter Garbini).

Because this rejection is based on Brinkmann, Takeuchi, Schermutzki, Weaver and/or Bradshaw, Applicants comments as set forth above are pertinent here and, therefore, are incorporated by reference thereto. Further, both Meyer and Garbini fail to teach or suggest anything that cures the above-noted deficiencies in the Examiner's attempted combination of Brinkmann, Takeuchi, Schermutzki, Weaver and/or Bradshaw.

- The Examiner rejected claims 13-17, 19, and 20, under §103(a) as being unpatentable over Brinkmann in view of Takeuchi and Schermutzki and in view of Weaver and/or Bradshaw, and further in view of the admitted prior art as set forth in the specification at page 1, line 9 to page 2, line 2 (hereinafter the APA).

Because this rejection is based on Brinkmann, Takeuchi, Schermutzki, Weaver and/or Bradshaw, Applicants comments as set forth above are pertinent here and, therefore, are incorporated by reference thereto. Further, the APA fails to teach or suggest anything that cures the above-noted deficiencies in the Examiner's attempted combination of Brinkmann, Takeuchi, Schermutzki, Weaver and/or Bradshaw.

Conclusion


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.111
US Appln. 09/782,036

Atty. Docket: Q64239

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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CUSTOMER NUMBER

Date: March 19, 2004